

REMARKS

Applicant respectfully requests that these proposed amendments to claims 1, 9, 13, 24 and 26 be entered. In addition, Applicant respectfully requests that the proposed amendments be considered in view of granting an allowance of all claims now pending in the application. Applicant cancels no claims, adds no claims; as a result, claims 1-30 are now pending in this application.

No new matter has been added through the amendments to claims 1, 9, 13, 24, and 26. Support for the amendments to claims 1, 9, 13, 24, and 26 is found throughout the specification, including but not limited to the specification at page 10, lines 26-30 and page 15, lines 9-12.

§103 Rejection of the Claims

Claims 1-7, 13, 17-19, 21 were rejected under 35 USC § 103(a) as being unpatentable over Seocho-Ku (E.P. 0905914A2) in view of Rehm (U.S. 5,939,912).

Claim 8 was rejected under 35 USC § 103(a) as being unpatentable over Seocho-Ku (E.P. 0905914A2) in view of Rehm (U.S. 5,939,912) as applied to claim 1 above, and further in view of Sugar et al. (U.S. Publication No. 2002/0080728A1).

Claims 9-12 were rejected under 35 USC § 103(a) as being unpatentable over Seocho-Ku (E.P. 0905914A2) in view of Rehm (U.S. 5,939,912) and Rose, Jr. (U.S. 5,127,101).

Claim 14 was rejected under 35 USC § 103(a) as being unpatentable over Seocho-Ku (E.P. 0905914A2) in view of Rehm (U.S. 5,939,912) as applied to claim 13 above, and further in view of Loo et al. (U.S. 5,757,319).

Claims 15-16 were rejected under 35 USC § 103(a) as being unpatentable over Seocho-Ku (E.P. 0905914A2) in view of Rehm (U.S. 5,939,912) as applied to claim 13 above, and further in view of Sengupta et al. (U.S. 6,556,102B1).

Claim 20 was rejected under 35 USC § 103(a) as being unpatentable over Seocho-Ku (E.P. 0905914A2) in view of Rehm (U.S. 5,939,912) as applied to claim 19 above, and further in view of Cronyn (U.S. 4,991,165).

Claim 22 was rejected under 35 USC § 103(a) as being unpatentable over Seocho-Ku (E.P. 0905914A2) in view of Rehm (U.S. 5,939,912) as applied to claim 21 above, and further in view of Stolarczke et al. (U.S. 5,093,929).

Claim 23 was rejected under 35 USC § 103(a) as being unpatentable over Seocho-Ku (E.P. 0905914A2) in view of Rehm (U.S. 5,939,912) as applied to claim 21 above, and further in view of Young (U.S. 6,643,522B1).

Claims 24 and 26-30 were rejected under 35 USC § 103(a) as being unpatentable over McGeehan et al. (U.S. 6,229,992B1) in view of Rehm (U.S. 5,939,912) and Auckland et al. (U.S. Publication No. 2002/0183013 A1).

Claim 25 was rejected under 35 USC § 103(a) as being unpatentable over McGeehan et al. (U.S. 6,229,992B1) in view of Rehm (U.S. 5,939,912) and Auckland et al. (U.S. Publication No. 2002/0183013 A1) as applied to claim 24 above, and further in view of Sugar et al. (U.S. 2002/0080728 A1).

However, since a *prima facie* case of obviousness has not been established by the Office in each case, the Applicant respectfully traverses the grounds of rejection of these claims.

1) The Applicable Law

As discussed in *KSR International Co. v. Teleflex Inc. et al.* (U.S. 2007), the determination of obviousness under 35 U.S.C. § 103 is a legal conclusion based on factual evidence. See *Princeton Biochemicals, Inc. v. Beckman Coulter, Inc.*, 7, 1336-37 (Fed. Cir. 2005). The legal conclusion, that a claim is obvious within § 103(a), depends on at least four underlying factual issues set forth in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17 (1966): (1) the scope and content of the prior art; (2) differences between the prior art and the claims at issue; (3) the level of ordinary skill in the pertinent art; and (4) evaluation of any relevant secondary considerations.

Therefore, the test for obviousness under §103 must take into consideration the invention as a whole; that is, one must consider the particular problem solved by the combination of elements that define the invention. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir.1985). The Examiner must, as one of the inquiries pertinent to any obviousness inquiry under 35 U.S.C. §103, recognize and consider not only the similarities but also the critical differences between the claimed invention and the prior art. *In re Bond*, 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990), *reh'g denied*, 1990 U.S. App. LEXIS 19971 (Fed. Cir.1990). The fact that a reference teaches away from a claimed invention is

highly probative that the reference would not have rendered the claimed invention obvious to one of ordinary skill in the art. *Stranco Inc. v. Atlantes Chemical Systems, Inc.*, 15 USPQ2d 1704, 1713 (Tex. 1990). When the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious. *Id.* p. 4 citing *United States v. Adams*, 383 U.S. 39, 51-51 (1966). Additionally, critical differences in the prior art must be recognized (when attempting to combine references). *In re Bond*, 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990), *reh'g denied*, 1990 U.S. App. LEXIS 19971 (Fed. Cir.1990).

Moreover, the Examiner must avoid hindsight. M.P.E.P. § 2143.01 (citing *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984)). That is, the Examiner cannot use the Applicant's structure as a "template" and simply select elements from the references to reconstruct the claimed invention. See *In re Gorman*, 933 F.2d 982, 987, 18 U.S.P.Q.2d (BNA) 1885, 1888 (Fed. Cir. 1991). The fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990); M.P.E.P. § 2143.01.

Furthermore, the Court in *KSR* reaffirmed that "[a] factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of argument reliant upon ex post reasoning." *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 82 USPQ2d at 1397. See also *Graham v. John Deere Co.*, 383 U.S. at 36, 148 USPQ at 474.

2) Application of § 103 to rejected claims - Combining the References Does Not Supply All Claimed Elements:

Claim 1:

With respect to independent claim 1, the Office Action concedes that Seocho-Ku fails to teach an adjustable time delay to apply a time delay placing the signal in an anti-phase with the interference signal. The Office Action goes on to suggest that Rehm however, teaches the above limitation. However, a close reading of the references reveals that the combination of Seocho-Ku and Rehm suggested in the Office Action fails to teach all of the claim elements of currently amended independent claim 1.

Independent claim 1, if amended as proposed recites in part, “transmitting a test signal over a channel having interference associated with a transceiver, the test signal sampled from an interference signal” and “calibrating the time delay using the test signal, wherein calibrating the time delay includes adjusting the time delay line and providing substantially broadband cancellation of the interference signal.” Neither Seocho-Ku nor Rehm alone or in combination disclose the above elements.

Contrary to the assertion made in the Office Action, Rehm discloses a recovery circuit for recovering data from serially transmitted digital signals wherein a very long hold time and infinite phase range is desired. The variable delay line is responsive to a feedback signal and clock signal for generating a first delayed phase-locked signal. *See* Abstract. Rehm does not disclose “**transmitting a test signal over a channel having interference** associated with a transceiver, the test signal sampled from an interference signal, (emphasis added)” and “**calibrating the time delay using the test signal**, wherein **calibrating the time delay includes adjusting the time delay line** and providing substantially broadband cancellation of the interference signal. (emphasis added)” Thus, all elements of independent claim 1 are not taught or suggested by the combinations of references cited in the Office Action.

Moreover, the test for obviousness under § 103 must also take into consideration the invention as a whole; that is, one must consider the particular problem solved by the combination of elements that define the invention. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 U.S.P.Q. 543, 551 (Fed. Cir. 1985). One of ordinary skill in the art does not have a reasonable expectation of success when combining the cited references.

For example, the apparatus in Rehm is used for recovering data from serially transmitted digital signals, wherein the circuit includes a data tracking phase-locked loop (PLL). Rehm teaches that delay line 142 provides for delaying the clock output CLK, in response to feedback signal DLY1IN, to produce delayed phase-locked signal CK_PH1. (See, Column 7, lines 46-48). On the contrary, the Applicant’s method does not require delaying any clock signals to bring about the cancellation of interference. Hence, Rehm teaches away from the claimed invention and it is highly probative that the reference would not have rendered the claimed invention obvious to one of ordinary skill in the art.

Furthermore, even assuming *arguendo* that Seocho-Ku and Rehm are not improperly combined, the Office action still fails to state a *prima facie* case of obviousness with respect to claim 1. In this case, hindsight is required to associate the teachings of Seocho-Ku with Rehm, because none of these references teach solving the problems presented by the Applicant. Thus, one would not be motivated to make the combination of Seocho-Ku with Rehm. Therefore, a *prima facie* case of obviousness has not been established with respect to independent claim 1.

Claims 2-8 depend either directly or indirectly from amended independent claim 1. These dependent claims inherit the elements of base claim 1, and are therefore allowable for the same reasons as discussed above with respect to amended independent claim 1. Further, any claim depending from a nonobvious independent claim is also nonobvious. *See* M.P.E.P. § 2143.03. for at least the reasons stated above with respect to claim 1, Applicant respectfully requests reconsideration and the withdrawal of the rejection of claims 1-7, and allowance of these claims.

Further, the addition of Sugar in rejecting claim 8 fails to remedy the deficiencies of the combination of Seocho-Ku and Rehm. Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 8, and allowance of this claim.

Claim 9

With respect to independent claim 9, the Office Action states that Seocho-Ku fails to teach (a) an adjustable time delay line to provide a time delay placing the correction signal in an anti-phase with an interference signal and (b) periodically resetting the time delay and adjusting the amplitude of the correction signal. The Office Action goes on to suggest that Rehm however, teaches a variable delay line that can place the signal in an anti-phase with the interference signal. Additionally, the Office Action goes on to further suggest that Rose discloses a method showing periodically resetting the time delay and adjusting the amplitude of the correction signal. However, a close reading of the references reveals that no combination of Seocho-Ku, Rehm and Rose in the Office Action provides the missing claim element of independent claim 9 amended as proposed.

For at least reasons similar to those discussed above with respect to claim 1, Applicant submits that amended independent claim 9 is patentable over Seocho-Ku and Rehm. Further,

Applicant submits that combining Rose with Seocho-Ku and Rehm, in the Office Action, does not show each element of claim 9, as discussed herein. Thus, Applicant submits that the proposed combination of Seocho-Ku and Rehm in view of Rose fails to make a *prima facie* showing of obviousness of claim 9. Claims 10-12 depend from claim 9 and inherit the elements of base claim 9, and therefore for at least the reasons stated herein are allowable. Applicant respectfully requests reconsideration and withdrawal of these rejections of claims 9-12, and allowance of these claims.

Claim 13

For at least reasons similar to those discussed above with respect to claim 1, Applicant submits that amended independent claim 13 is patentable over Seocho-Ku and Rehm. Hence, Applicant submits that Seocho-Ku and Rehm does not teach or suggest all the elements of claim 13. Thus, Applicant submits that claim 13 is patentable over Seocho-Ku and Rehm. Claims 14-23 either directly or indirectly depend from claim 13 and inherit the elements of base claim 13, and therefore for at least the reasons stated herein, are allowable.

The addition of Loo in the rejection of claim 14, of Sengupta in the rejection of claims 15-16, the addition of Cronyn in the rejection of claim 20, the addition of Stolarczke in the rejection of claim 22, and the addition of Young in the rejection of claim 23 all fail to remedy the deficiencies of any proposed combinations of Seocho-Ku and Rehm in the rejections of these claims.

Applicant respectfully requests reconsideration and withdrawal of these rejections of claims 13-23, and allowance of these claims.

Claim 24

For at least reasons similar to those discussed above with respect to claim 1, Applicant submits that amended independent claim 24 is patentable over McGeehan in view of Rehm and Auckland.

Furthermore, Applicant cannot find in the combination of McGeehan view of Rehm and Auckland a teaching or a suggestion of a system having a controller coupled to the transceiver and regulates control signals provided to transceiver, the control signals allows for setting time

delay, amplitude attenuation and phase correction. Therefore, Applicant submits that the combination of McGeehan, Rehm, and Auckland does not make a *prima facie* showing of obviousness because it does not teach or suggest all the elements of claim 24.

Considering claim 24 as a whole and the differences between claim 24 and the combination of McGeehan, Rehm, and Auckland, Applicant submits that McGeehan in view of Rehm and Auckland, as proffered in the Office Action, does not establish a *prima facie* case of obviousness with respect to claim 24, for at least the reasons discussed above. Thus, Applicant submits that claim 24 is patentable over McGeehan in view of Rehm and Auckland. Claims 25-30 depend from claim 24. Applicant submits that claims 26-30 are patentable over McGeehan in view of Rehm and Auckland for at least the reasons stated herein. The addition of Sugar in the rejection of claim 25 fails to remedy the deficiencies of any combinations of McGeehan, Rehm, and Auckland.

Applicant respectfully requests reconsideration and withdrawal of these rejections of claims 24-30, and allowance of these claims.

RESERVATION OF RIGHTS

In the interest of clarity and brevity, Applicant may not have addressed every assertion made in the Office Action. Applicant's silence regarding any such assertion does not constitute any admission or acquiescence. Applicant reserves all rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. § 1.131 or otherwise, or the right to assert co-ownership of any cited reference. Applicant does not admit that any of the cited references or any other references of record are relevant to the present claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner's personal knowledge, rather than any objective evidence of record as manifested by a cited prior art reference, Applicant timely objects to such reliance on Official Notice, and reserves all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP § 2144.03. Applicant reserves all rights to pursue any cancelled claims in a subsequent patent application claiming the benefit of

AMENDMENT UNDER 37 C.F.R. 1.116 – EXPEDITED PROCEDURE

Serial Number: 10/674,730

Filing Date: September 30, 2003

Title: BROADBAND INTERFERENCE CANCELLATION

Assignee: Intel Corporation

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priority of the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP § 821.04.

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CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6900 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 24th day of September 2007.

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